

Overview of the Private Equity Sector



Economics of Private Equity Investment Center for the Study of Innovation and Productivity

Federal Reserve Bank of San Francisco

October 19, 2007

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Presentation objectives

- Provide an overview of the role of Private Equity in the economy
- Explain the structure and history of the industry
- Describe the key participants and players
- Highlight forces that are shaping the industry

What is Private Equity?

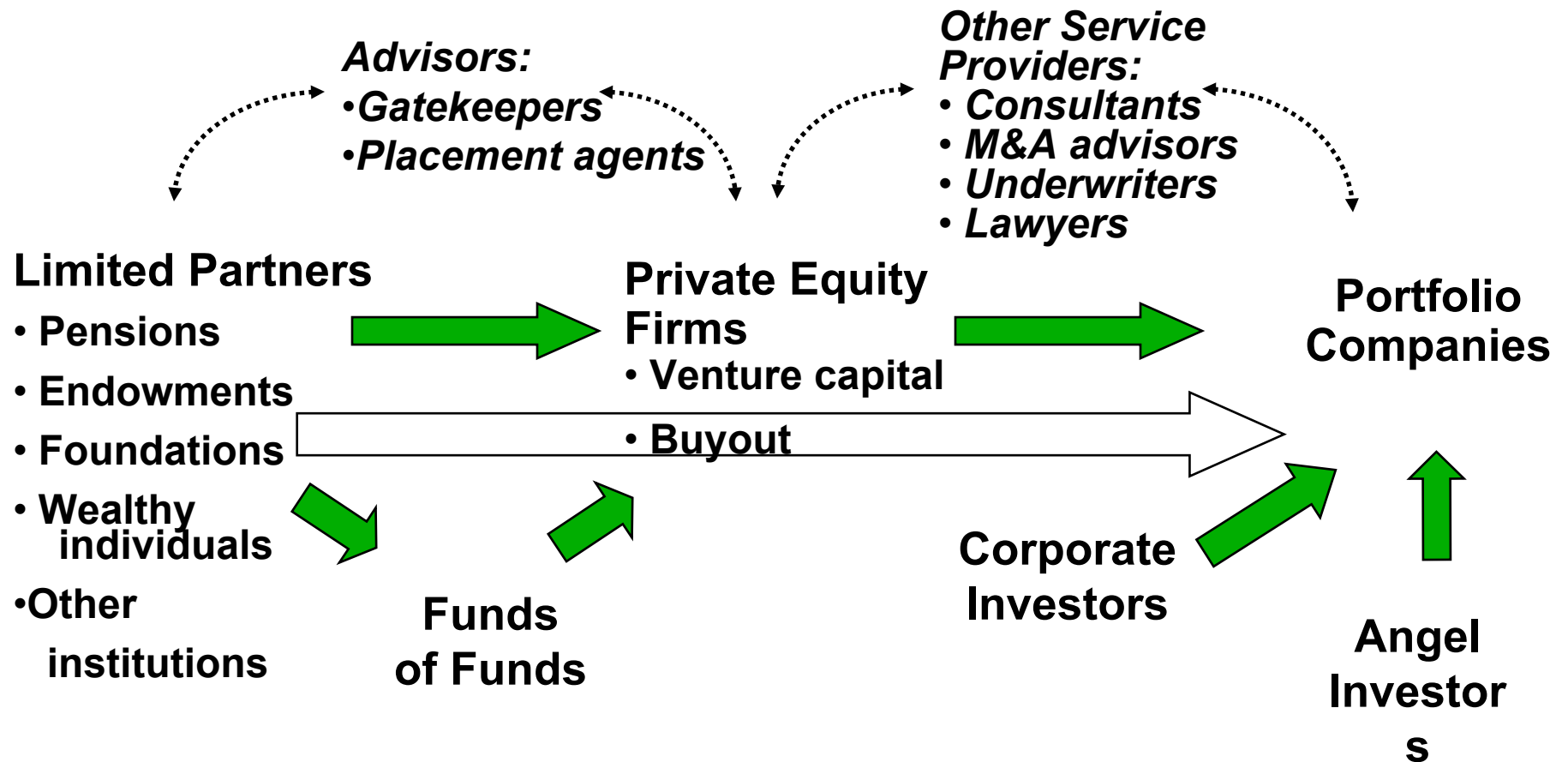
Narrow Definition: “Equity investments in non-public companies”

- **Key sub-sectors:**

- Venture capital – focuses on investing in new companies with high growth rates
- Buyouts – the purchase of a controlling interest of a company or a business unit of a company by an outside investor often with substantial borrowed capital (in a leveraged buyout) or a management team (in a management buyout)

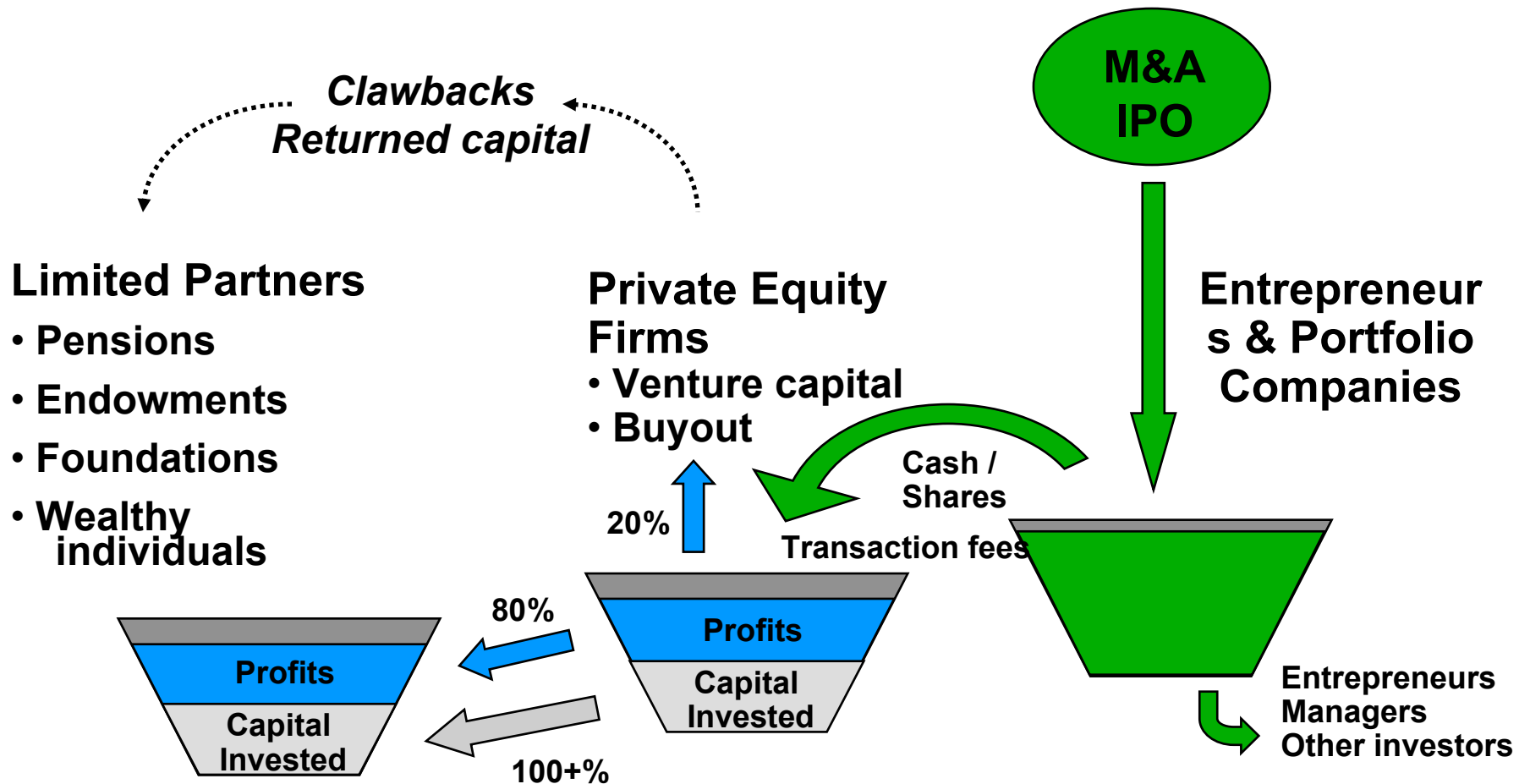
Broad Definition: includes Private Investment in Public Equities (PIPEs), Mezzanine, Distress, Hedge

Industry key players collaborate to make investments





Funds flow back to LPs after liquidity events



The private equity model

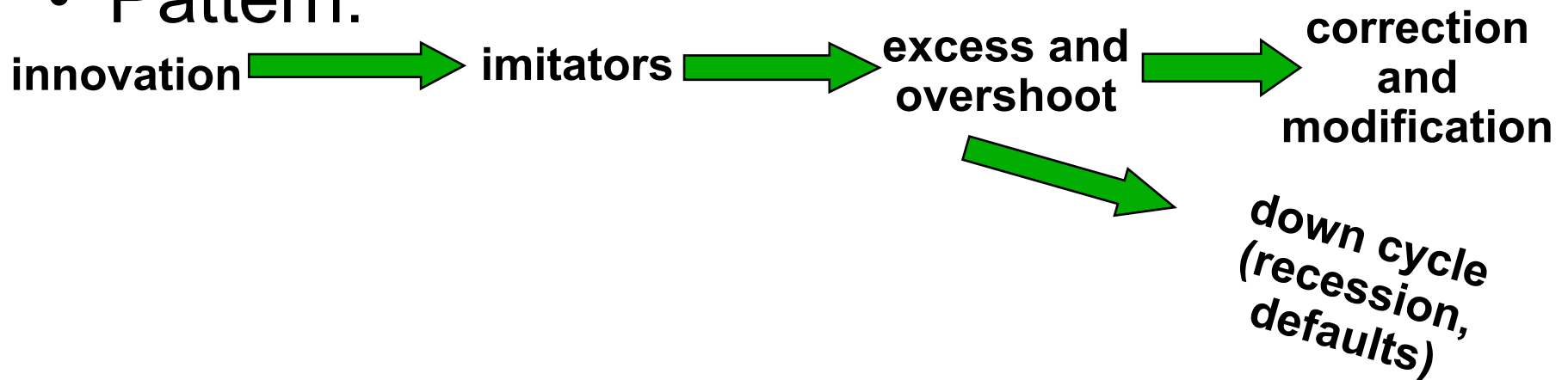
- Concentrated governance
 - Small involved board
 - Direct consultation
 - Strong management incentive (ownership)
- Absence of public market “earnings myopia”
- Source of value
 - Multiple expansion (“buy low, sell high”)
 - Leverage
 - Cash flow improvement
- Iconic test: Chrysler and Cerberus

Structure of a buyout: capitalization

- **Debt** (~70% of overall cap structure)
 - **Bank debt**
 - Two types:
 - Revolving credit facility – (i.e. Revolver) can be paid down and re-borrowed as needed
 - Term debt (senior and subordinated) w/ floating rates
 - **Mezzanine debt**
 - Two types:
 - High yield (typically public markets)
 - Subordinated notes (typically banks, institutions, private equity funds)
 - Other key features:
 - Warrants
 - Payment-In-Kind (PIK) toggle allows no interest payment and increase in principal
- **Equity** (~30% of overall cap structure)
 - **Common stock**
 - **Preferred stock**

The role of financial innovation and market structure

- Impact of ERISA and the “Prudent Man” clause
- Junk bonds (1980s)
- Securitized debt: CLOs, CDOs (2000s)
- Pattern:



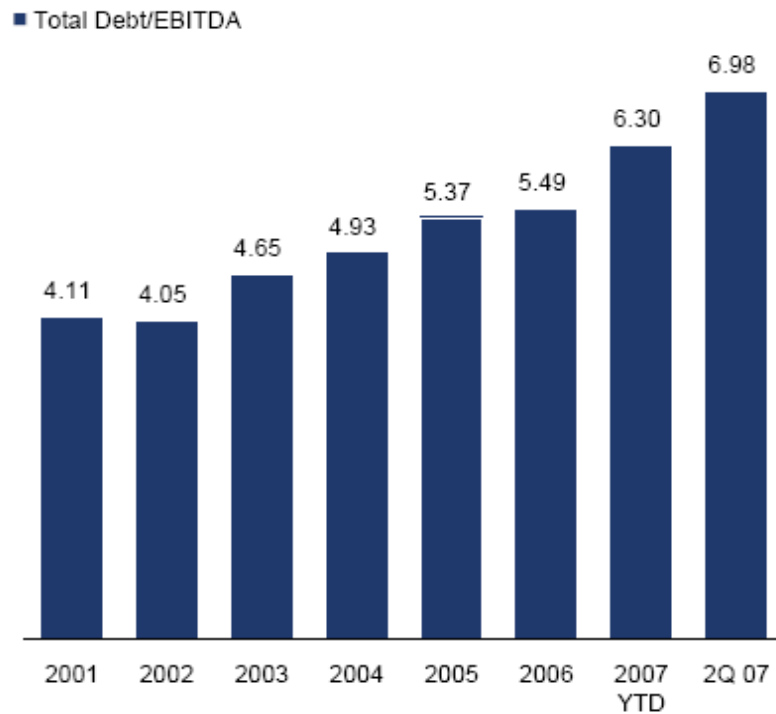
The perfect storm

- Economic recovery (2002+)
- Debt market expansion (2002 – July 2007)
- LBO expansion (2003 – July 2007)
- PE industry institutionalization (2006+)
- Confidence crisis and backlash

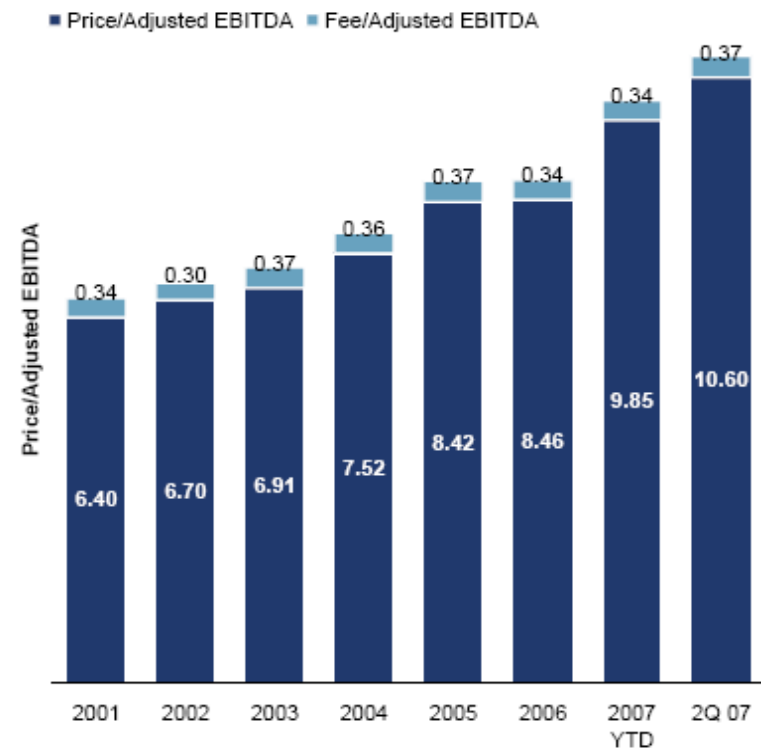


Multiple expansion

Average Debt Multiples of LBO Loans^{1,2}



Average LBO Purchase Price Multiple^{3,4}



¹ Includes issuers with EBITDA of more than \$50 million.

² EBITDA is not adjusted for prospective cost savings or synergies.

³ LBOs greater than or equal to \$500 million. Source: Portfolio Management Data.

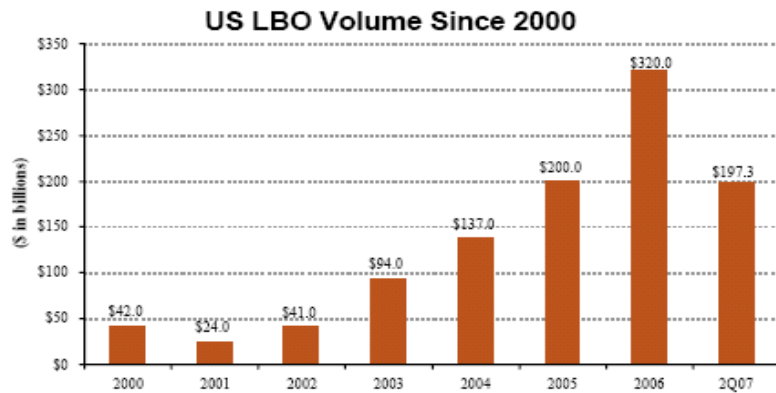
⁴ 2007 YTD as of 25 May.

Debt market expansion

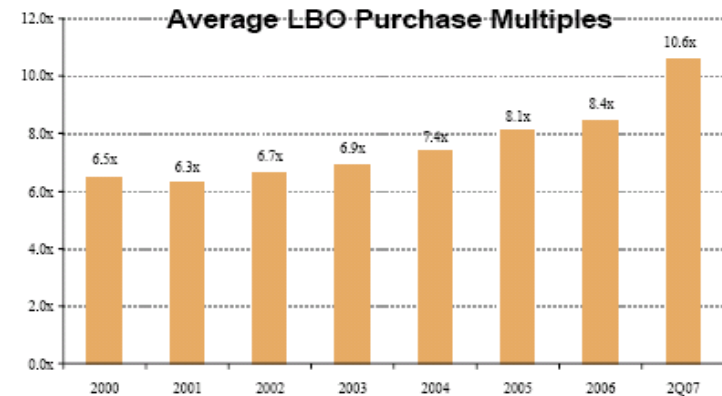
- Expanding debt multiples
- Lower interest rates
- Vanishing terms
- Securitization (CLOs)
- Falling default rates



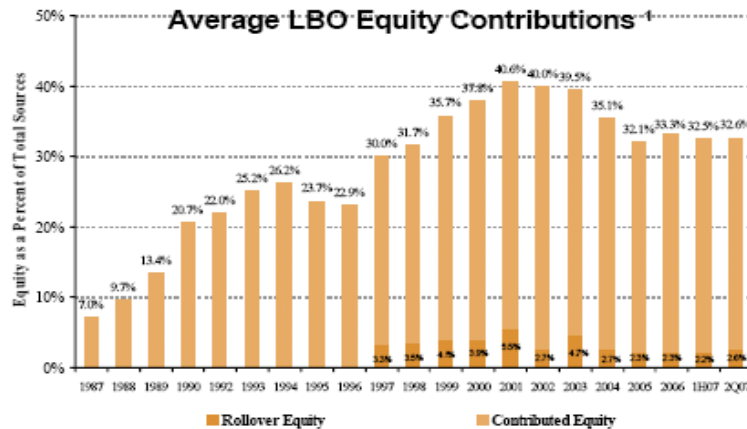
Multiple expansion



Source: Ernst & Young Private Equity/LBO Market Trends & Statistics 2007 Mid Year Review



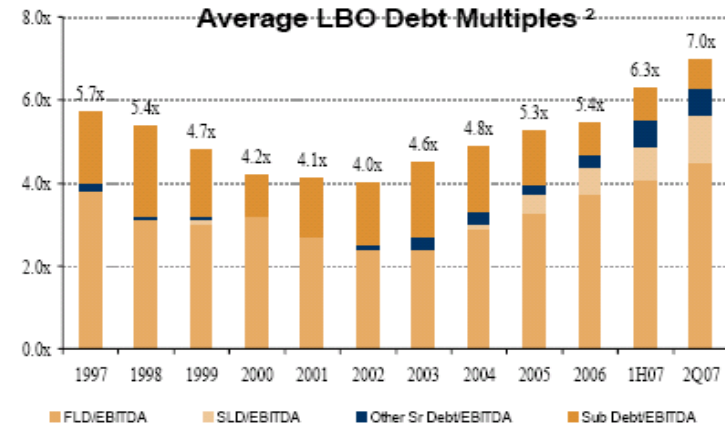
Source: Ernst & Young Private Equity/LBO Market Trends & Statistics 2007 Mid Year Review



Source: Standard & Poor's Leveraged Lending Review 2Q07

¹ Equity includes common equity and preferred stock as well as holding company debt and seller note proceeds downstreamed to the operating company as common equity; Rollover Equity prior to 1996 is not available; There were too few deals in 1991 to form a meaningful sample.

² Average Debt Multiples of Large Corporate LBO Loans (Defined as Issuers with EBITDA of more than \$50M) EBITDA adjusted for prospective cost savings or synergies

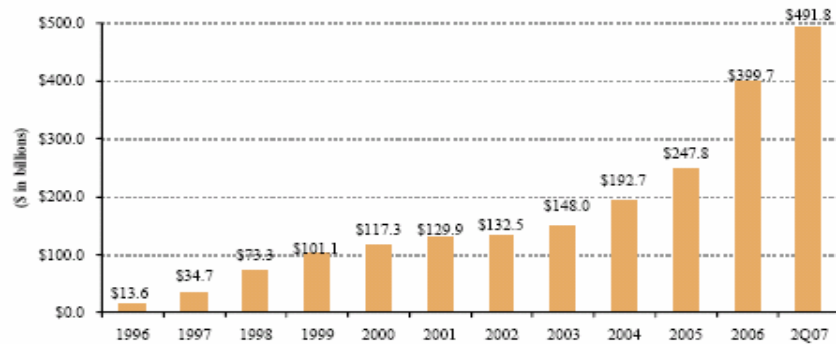


Source: Standard & Poor's Leveraged Lending Review 2Q07



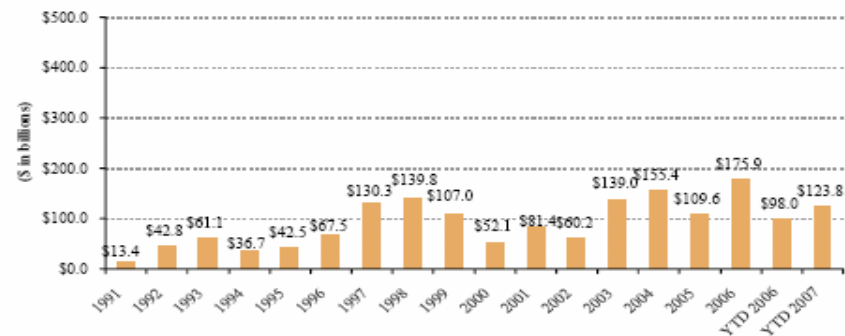
Leveraged loans outstanding

Par Amount of Outstanding Leveraged Loans



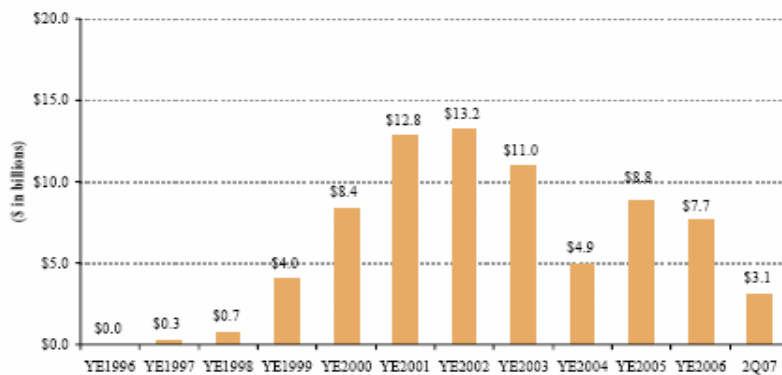
Source: Standard & Poor's Leveraged Lending Review 2Q07

High Yield Market—Annual New Issuance



Source: Bear, Stearns & Co. Inc

Par Amount of Leveraged Loans in Payment Default or Bankruptcy ¹



Source: Standard & Poor's Leveraged Lending Review 2Q07

Lagging Twelve-Month Default Rate by Principal Amount ²

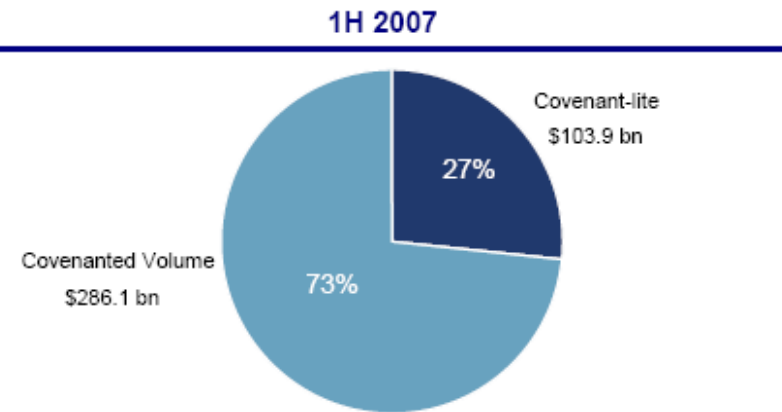
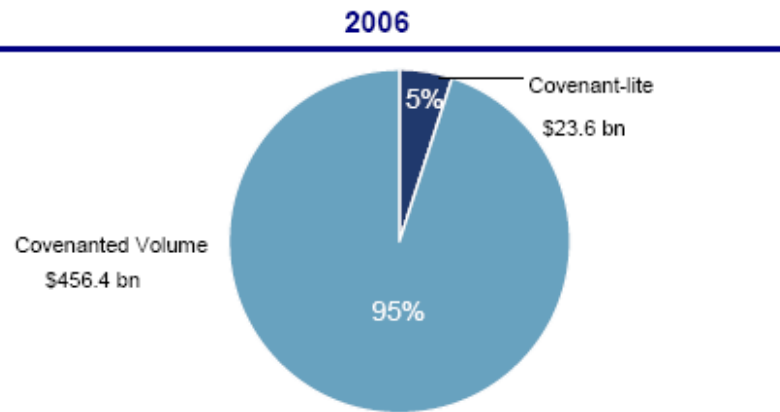


Source: Standard & Poor's Leveraged Lending Review 2Q07

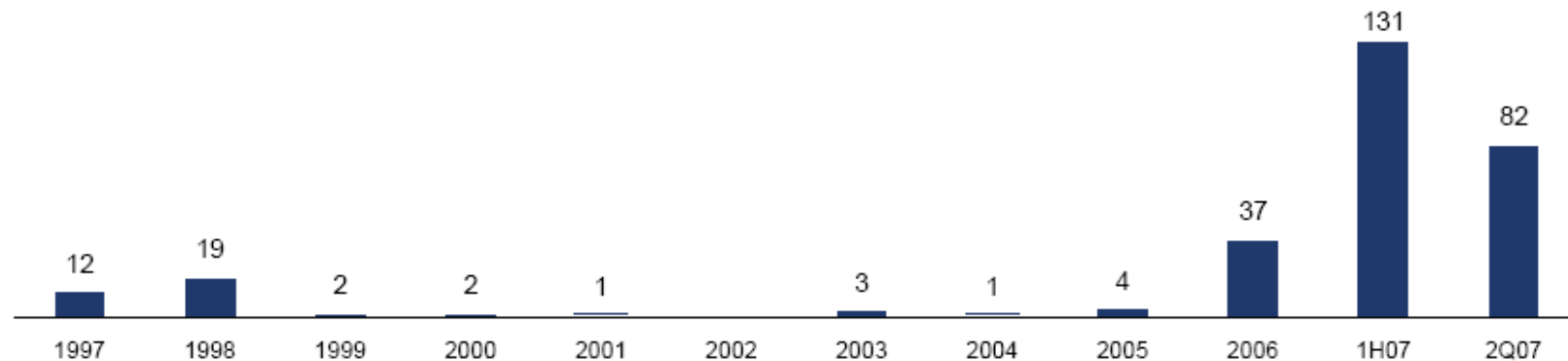


Covenant-lite loans

Covenant-Lite Loan Volume



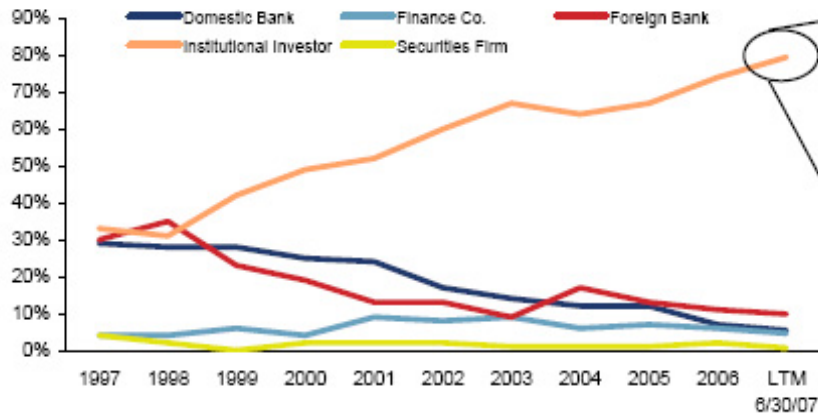
Number of Covenant-Lite Loans



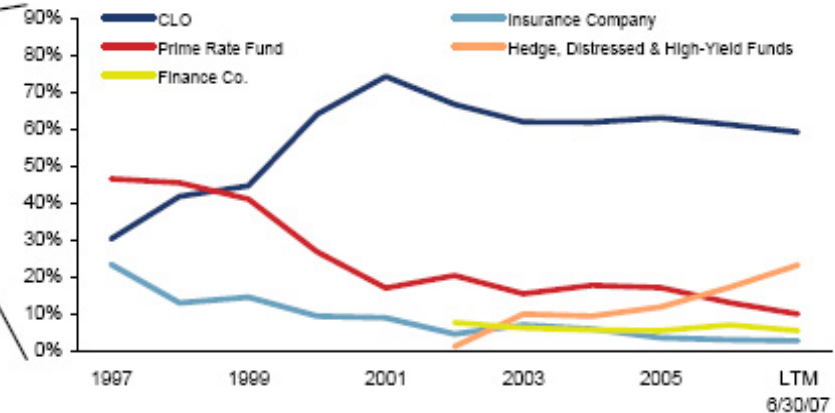
Source: Standard & Poor's

CLO structures become popular

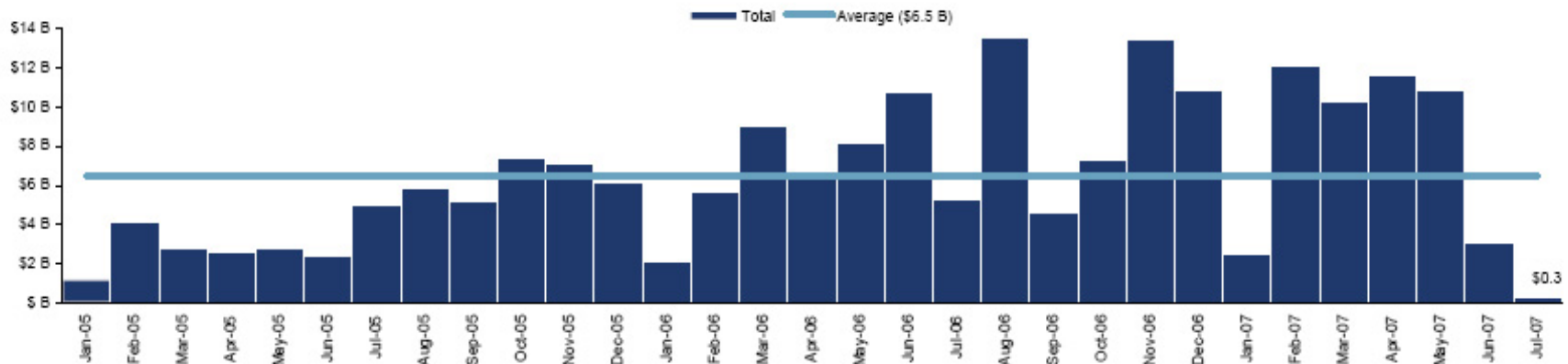
Leveraged Loan Demand by Investor Type



Institutional Market by Investor Type

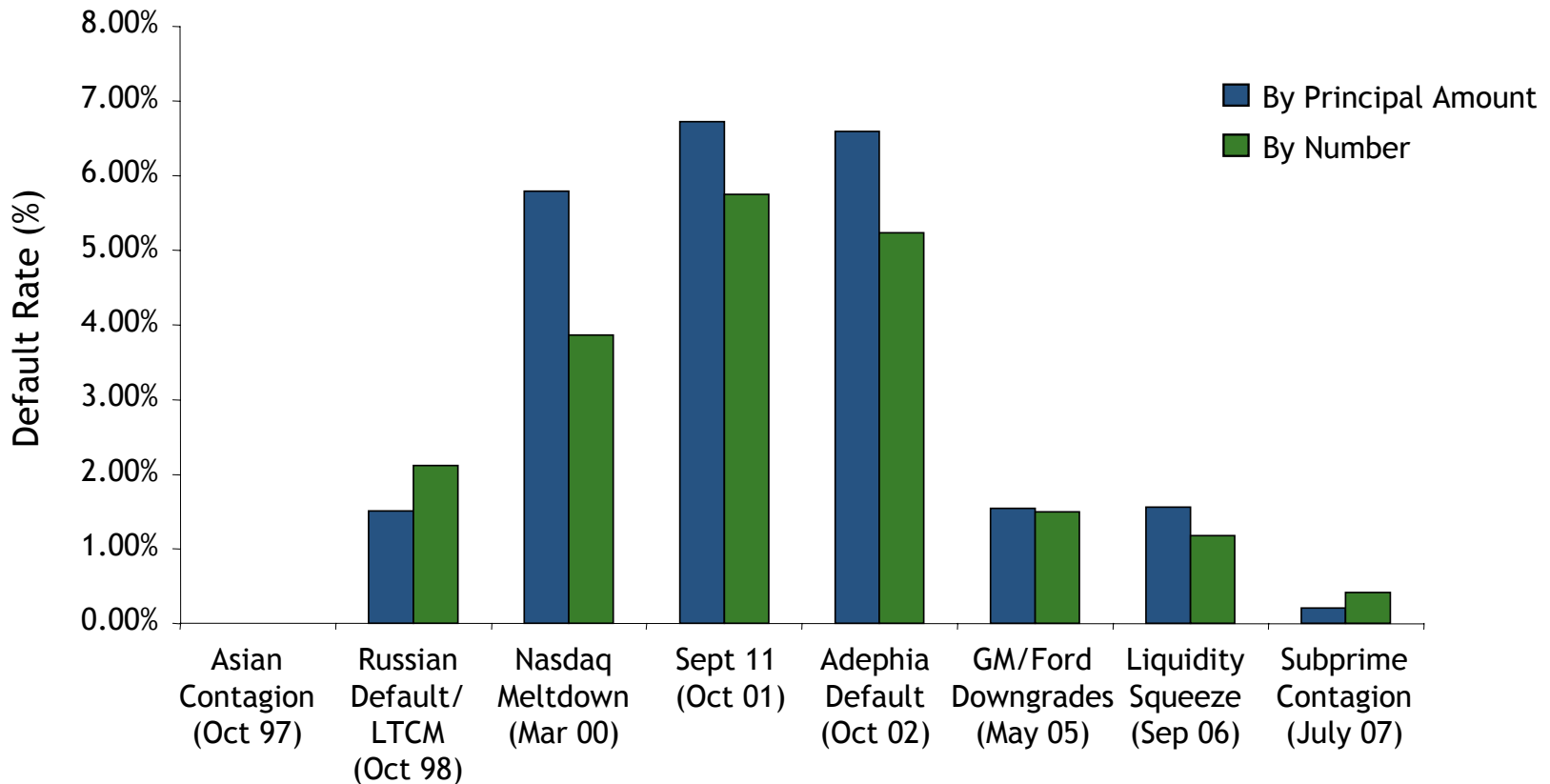


Historical New CLO Issuance



Default rates at historical lows

U.S. Corporate Market Default Rates

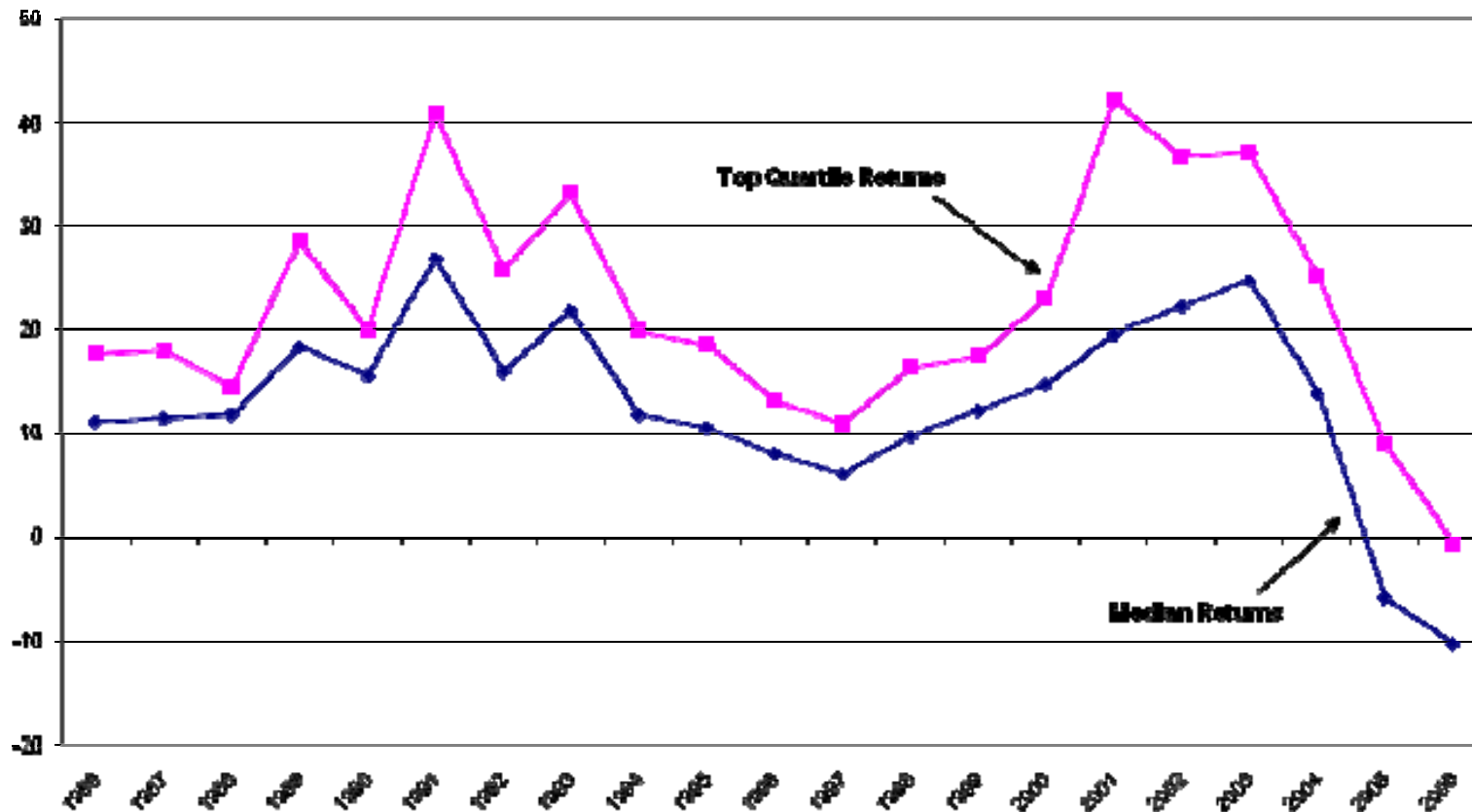


Source: Standard & Poor's Leveraged Commentary & Data. As of August 2007.

Rise of LBOs

- Early returns (leveraged recaps for equity dividends)
- Expanding deal volume and size
- LBO fundraising expansion
- Club deals and mega deals
- PE industry institutionalization

Quick dividend payouts



Source: Cambridge Associates



Historical deal sizes

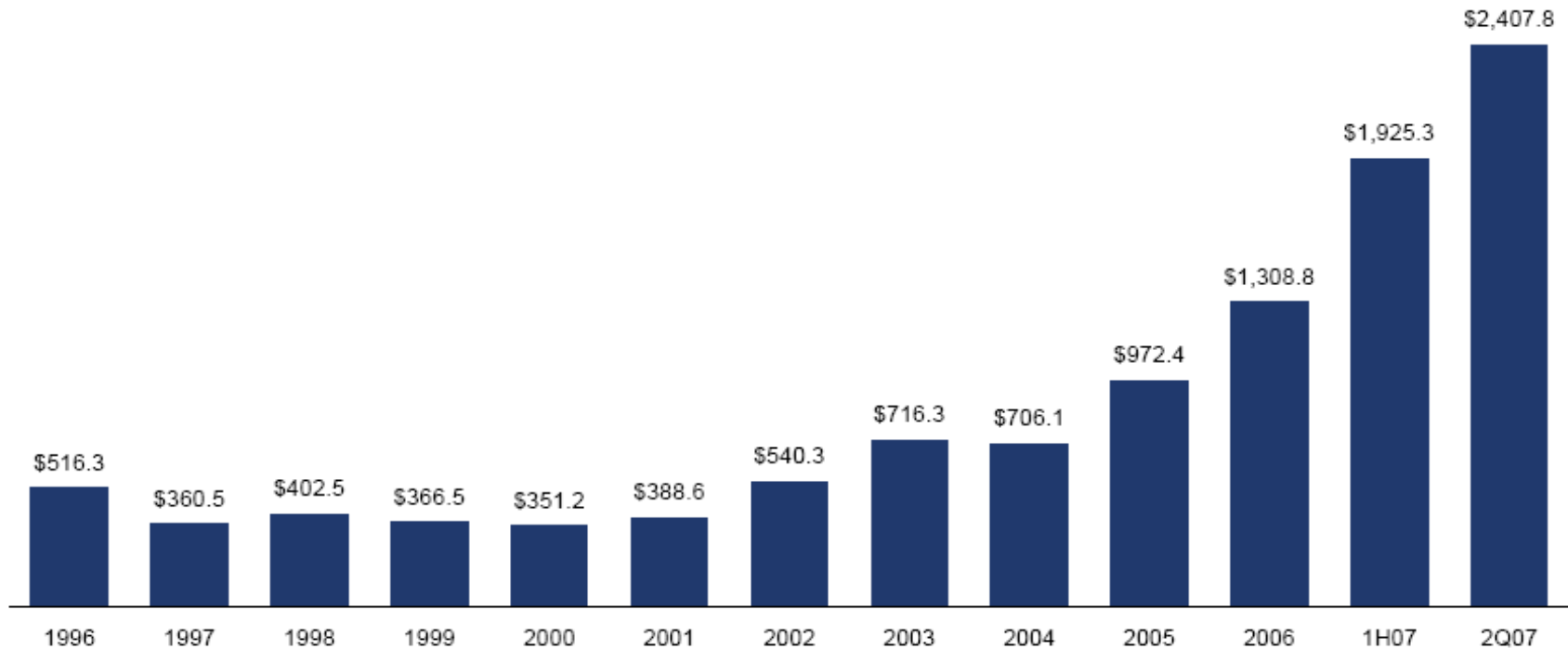
November-06	Equity Office	\$ 36.0 billion
July-06	HCA	33.0
March-07	TXU	31.8
April-07	First Data	29.0
November-06	Clear Channel	26.7
October-88	RJR Nabisco	25.1
September-06	Freescale Semiconductors	17.6
April-06	GMAC (Financing Unit)	14.0
May-06	Kinder Morgan	13.6
March-06	TDC AS	12.9
June-06	Univision Communications	12.1
March-06	SunGard Data Systems	11.0
August-06	Royal Philips Elec. NXP Semi Conductor Business	10.5
January-06	VNU NV	9.7
March-06	GMAC Commercial Holdings Corp. (Mortgage Unit)	9.0

Source: Buyouts, News Clipping, and Press Releases



Deal size increases

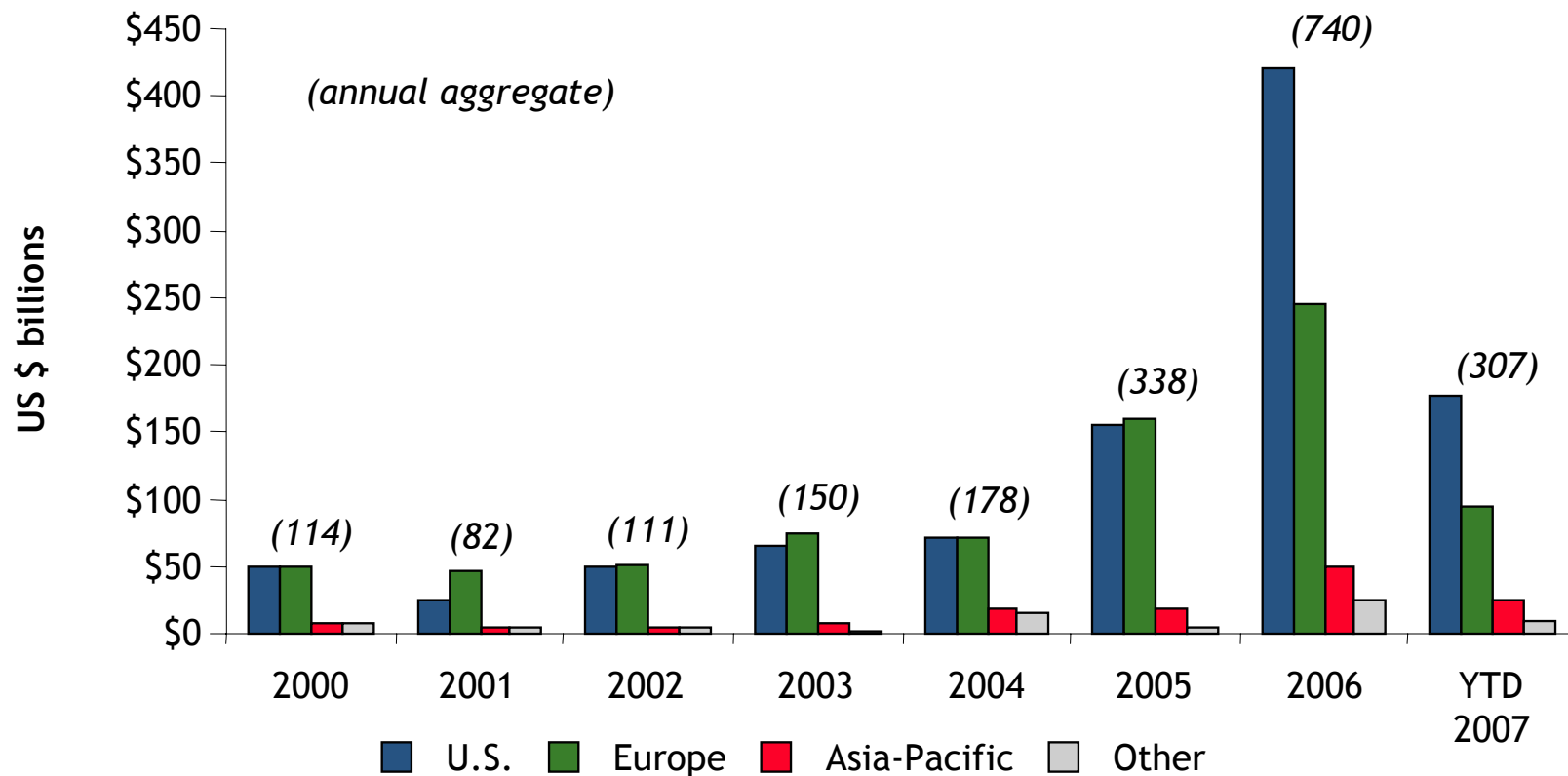
Average LBO Size by Total Sources (\$ in mm)



Source: Standard and Poor's Leveraged Commentary & Data

LBO deals expand

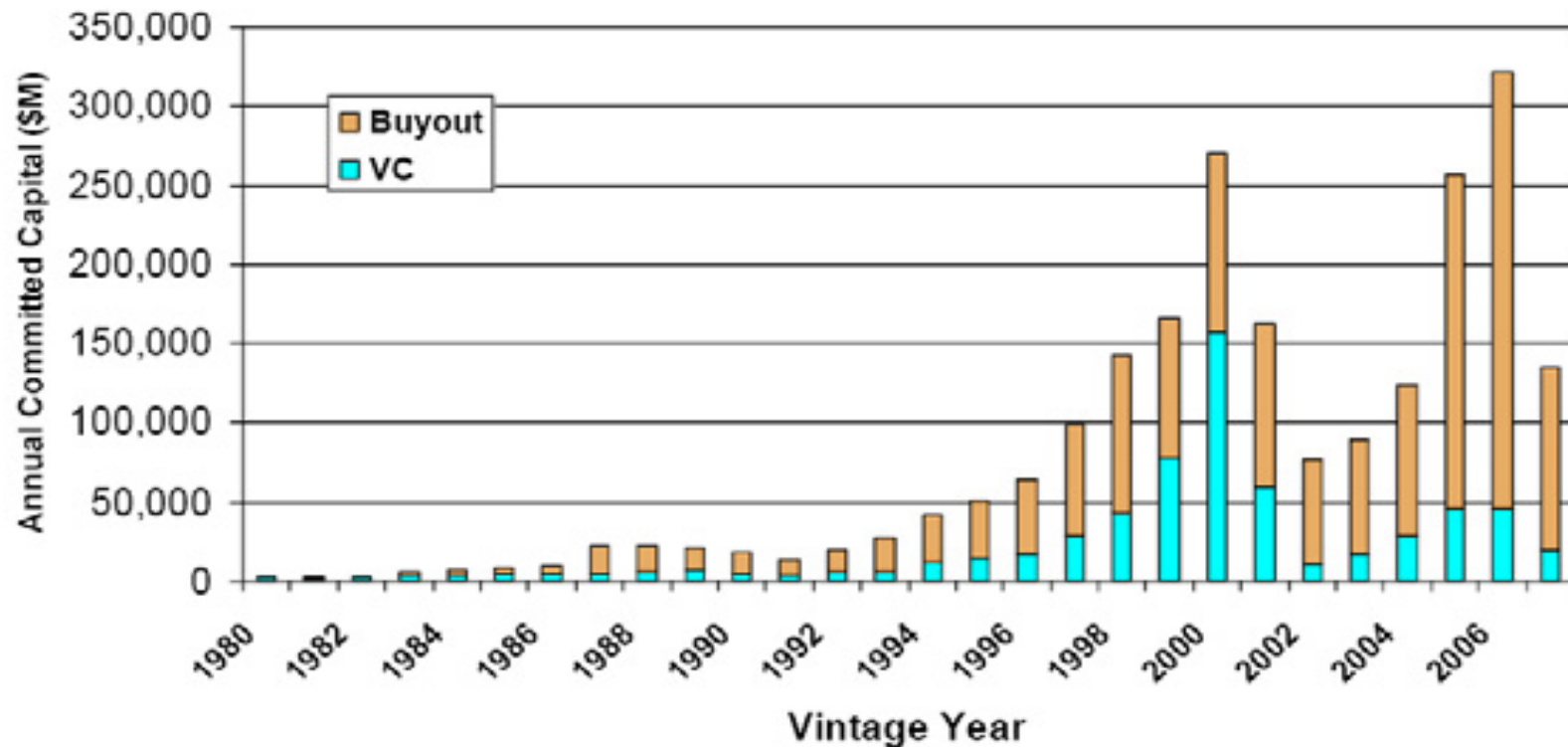
Global Financial Sponsor Buyouts



Source: Dealogic. *Acquisitions by private equity firms & add on transactions by portfolio companies. As of April 2007.

Private equity fundraising increases

Global Private Equity Raised By Vintage Year

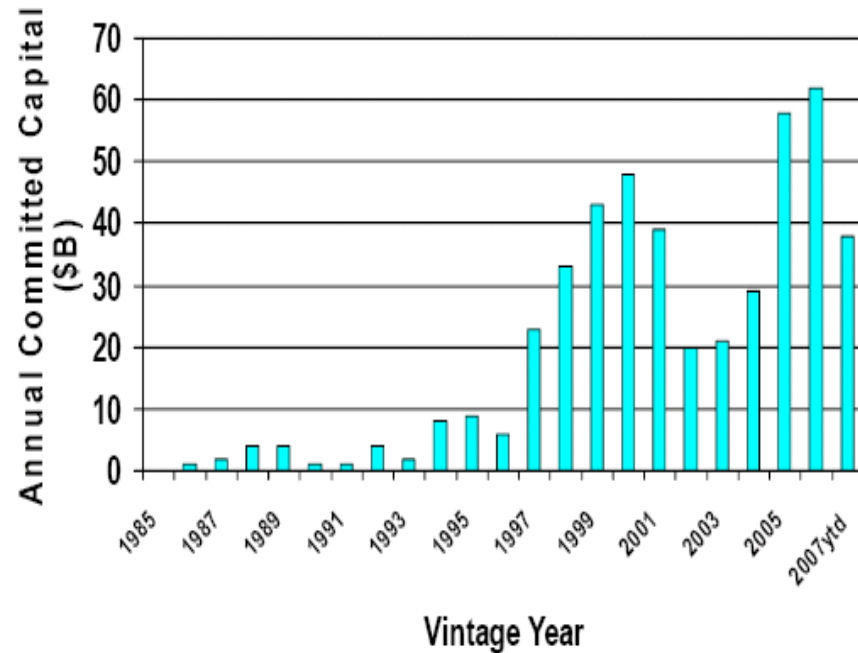




Mega funds appear

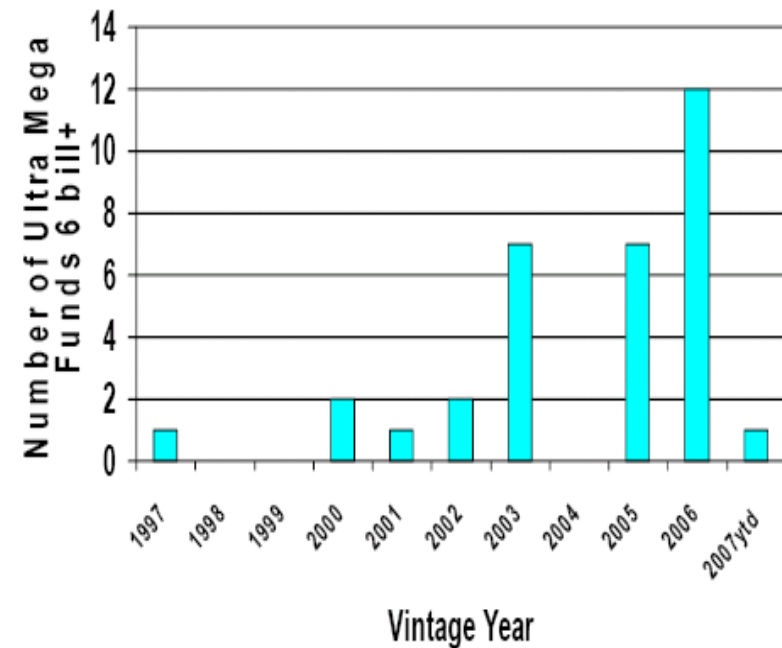
The "JUMBO" Roundtable

Number of PE \$1-6 Billion Funds Raised Globally



Ultra Mega Funds

Number of PE \$6 Billion + Funds Raised Globally





Largest funds of 2006 - 2007

Fund Manager	Target	Closed
Goldman Sachs	\$10.0BN	\$20.0BN
KKR	\$15.5BN	\$18.5BN
Blackstone	\$13.5BN	\$15.6BN
TPG	\$14.0BN	\$15.2BN
Carlyle	17.0BN	\$15.0BN
Apollo	\$10.0BN	\$10.1BN
Thomas H. Lee	\$9.0BN	\$8.0BN
Hellman & Friedman	\$8.4BN	\$8.0BN
Bain Capital	\$8.0BN	\$8.0BN
Madison Dearborn	\$10.0BN	\$6.5BN
Total	\$115.4BN	\$124.9BN

Syndicates use purchasing power

Acquiror	Target	Target Sector	Value (\$bn)
KKR, TPG, Goldman Sachs Capital Partners, Lehman Brothers, Morgan Stanley, Citigroup	TXU Corp	Natural Resources	\$44.4
Blackstone	Equity Office Properties	Real Estate	37.7
KKR, Bain, Merrill Lynch	HCA	Healthcare	32.1
Airport Development	BAA PLC	Industrials	30.2
Bill Morgan, Fayed Sarofim, Mike Morgan, GS, AIG, Carlyle, Riverstone, Richard Kinder	Kinder Morgan	Natural Resources	27.5
Apollo, TPG	Harrah's Entertainment	TMT	27.4
TPG, Goldman Sachs	Alltel	TMT	27.3
KKR	First Data	Financial Inst.	27.0
Bain Capital, Thomas H Lee	Clear Channel Comm.	TMT	26.8
JC Flowers, Bank of America, Friedman Fleischer & Lowe	SLM Corp	Financial Inst.	25.5





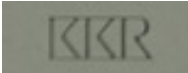

PE firms seek liquidity

LBO Firms

Investor

Apollo.....	Credit Lyonnais
Blackstone.....	Peoples Bank Of China
The Carlyle Group.....	Abu Dhabi Government
Thomas H. Lee Partners.....	Putnam Investments/ Marsh & McLennan
Fortress Investments.....	Nomura Holdings Inc.

PE goes public (IPOs)

	Listing	Date	Type	Market Cap*
	NASDAQ	2004	Close-end debt fund	\$2.2BN
	Euronext	2006	Feeder to U.S.-based fund	\$1.6BN
	NYSE	2007	Sale of Management Company	\$7.3BN
	NYSE	2006	Sale of Management Company	\$2.2BN
	Euronext	2006	Feeder to U.S.-based fund	\$3.9BN
	Euronext	2005	Feeder to U.S.-based fund	Euro 1.1BN



Evolution of PE firms: a new “bulge bracket”

	Managing Multiple Funds	Sold Minority Interest	Public Capital	Captive of Financial Institution	Independent Mono-Line Boutique
Apollo Advisors	•	•	•		
Bain Capital	•				
The Blackstone Group	•	•	•		
The Carlyle Group	•	•			
GS Capital Partners	•			•	
Hellman & Freidman					•
JPMorgan Partners	•			•	
KKR	•		•		
Madison Dearborn	•				
Providence Equity Partners					•
Silver Lake Partners					•
Texas Pacific Group	•				
Thomas H. Lee Partners	•	•			
Welsh Carson Anderson & Stowe					•
Warburg Pincus					•



Backlash, confidence crisis, correction

- Backlash
 - Envy, ignorance, injustice
 - Tax proposals
 - Union activism
- Confidence crisis
 - New mega deals “hung up” or on hold
 - CLOs terminated or restructured

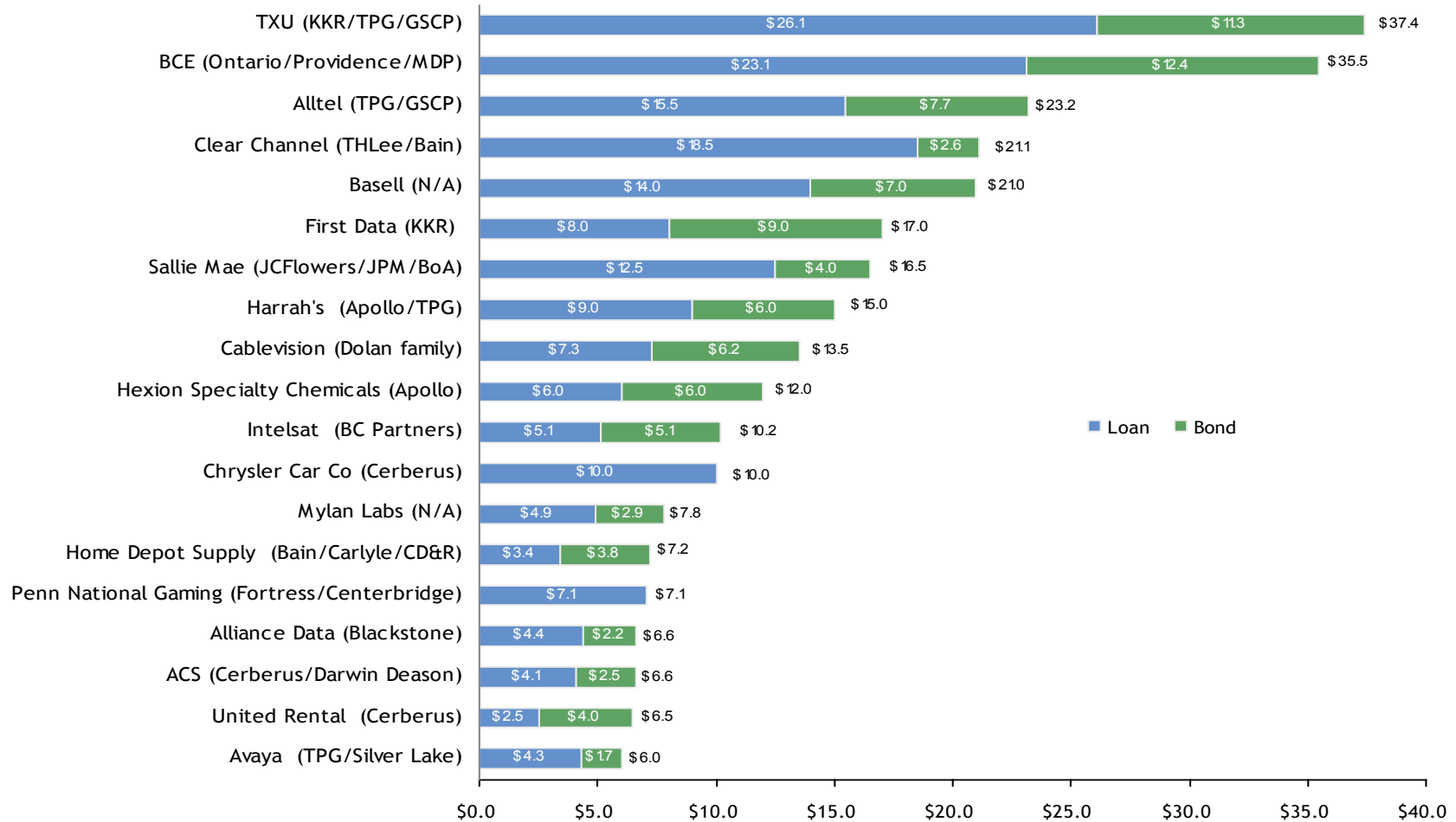


Delayed or canceled leveraged loan transactions

Borrower	Loan amount	Purpose	Delayed / Pre-funded	Cancelled
(\$ in millions)				
Chrysler - CarCo	\$10,000	LBO	\$10,000	
Allison Transmission	\$3,500	LBO	\$3,500	
US Food Service	\$3,465	LBO	\$3,465	
Service Master	\$3,350	LBO	\$3,350	
Calpine	\$3,000	Refi		\$3,000
Targa Resources	\$2,475	Div Recap		\$2,475
Home Depot Supply	\$2,200	LBO	\$2,200	
EP CO Holdings	\$1,700	Refi	\$1,700	
Bombardier Recreation Products	\$1,400	Div Recap		\$1,400
Border Group	\$1,325	Refi		\$1,325
US Investigations	\$1,255	LBO	\$1,255	
Evrax Oregon Steel Mill	\$1,200	Refi		\$1,200
Enterprise GP Holdings	\$1,200	Refi	\$1,200	
Source InterLink	\$1,180	Acq	\$1,180	
Laureate Education	\$1,150	LBO	\$1,150	
Collective Brands	\$1,075	Acq	\$1,075	
Tower Automotive	\$910	Dip Exit / LBO	\$910	
Hunt Refining	\$760	GCP	\$760	
Myers Industries	\$685	LBO	\$685	
Vertrue	\$660	LBO	\$660	
DAE Aviation	\$657	Acq	\$657	
Integra	\$595	M&A	\$595	
BISYS	\$565	LBO	\$565	
GSI Group	\$475	LBO	\$475	
Intertape Polymer Group	\$460	LBO		\$460
RadNet	\$445	Refi		\$445
CCS Medical	\$430	Refi		\$430
Alliant Insurance	\$420	LBO	\$420	
Dayton Superior	\$410	Refi	\$410	
VNU	\$400	Acq	\$400	
Symbion	\$375	LBO	\$375	
Oxygen Media	\$345	Refi		\$345
Stonridge	\$300	Refi		\$300
Eagle Picher	\$290	Refi		\$290
Stolle Machinery	\$250	Div Recap		\$250
Oreck	\$200	Refi		\$200
SGS International	\$194	Reprice		\$194
Escort	\$124	Div Recap		\$124
Oneida	\$120	Div Recap		\$120
39 Deals	\$49,545		\$36,987	\$12,558

Source: JP Morgan

Leveraged finance calendar is busy and uncertain



Source: JP Morgan

Correction

- PIK toggle debt disappears
- Covenants reappear
- Debt and enterprise value multiples decline
- Bank senior debt reappears
- Debt interest rates rise



Covenant light transactions that add covenants

Recent selected maintenance covenant - flexed loans		
<u>Borrower</u>	<u>Sponsor</u>	<u>Covenant Addition</u>
Aeroflex	Veritas Capital, Golden Gate Capital	Total Leverage Test
Alliant Insurance	Blackstone	Sr. Sec. Leveraged Test
Appleseeds	Golden Gate Capital	1st lien Leverage Test/ Minimum EBITDA
Caritor	CVC I	Net Leverage Test
CDW	Madison Dearborn	Sr. Sec. Leveraged Test
Ceva Logistics	Apollo	Sr. Sec. Leveraged Test
Chrysler - Fin Co	Cerberus	Debt to Net Worth Test to include 2nd lien
Chrysler - Car Co	Cerberus	Borrowing Base Test / Minimum Liquidity Test
Container Store	Leonard Green	Rent Adjusted Sr. Sec. Leverage Test
Express	Golden Gate Capital	Leverage Test
First Data	KKR	Sr. Sec. Net Leverage Test
Good Year EPD	Carlyle	Sr. Sec. Leverage Test
Gregg Appliances	Freeman Sogli	Leverage Test
Harlan Sprague Dawley	Genstar Investment Group	Maintenance Test
Hilite International	Kelso, Blue Capital, Court Square Capital	Interst Coverage Test / Leverage Test
Investive	NA	Total Leverage Test
Medical Media	Providence Ventures	Leverage Test
Mitel Networks	Morgan Stanley Capital, Francisco Partners	Maintenance Test
Myers Industries	Goldman Sachs	Leverage Test
Nelson Education	OMERS Capital Partners	1st lien Leverage Test/ Total Leverage Test
Niagara	Kohlberg & Co.	Leverage Test
RJ O' Brien	Spectrum Equity Investors	Total Leverage Test
Source Interlink	Yucaipa Companies	Sr. Sec. Leverage Test
Spirit Finance	Macquarie / Och - Ziff	Loan to Value Test / Debt Service Coverage
Syniverse	GTCR Golder Rauner	Maintenance Test
Thomson Learning	Apax, OMERS Capital Partners	Sr. Sec. Leverage Test
Tower Automotive	Cerberus	Interst Coverage Test / Net 1st and 2nd lien Leverage Test
Van Houtte	Littlejohn & Co	Total Leverage Test
Vertrue	One Equity Partners	1st and 2nd lien Leverage Test
White Birch	NA	Interest Coverage Test

Source: JP Morgan

Vulture and special situation funds raised overnight

“The potential returns on LBO debt at the moment match those of equity investments in the buyouts.”

-Blackstone’s Q2 earnings call

Goldman Sachs - Market Dislocation Fund

Lehman Brothers - Special Situation Fund

Oak Tree Capital - Special Situation Fund

TCW - Special Mortgage Credit Fund

Ellington Management - Vulture Fund

Marathon Asset Management - Vulture Fund

Credit crunch impact on LBOs

“Some 29 buyout-backed companies with an estimated \$17.3 billion in publicly-traded debt are at high risk of defaulting on those obligations, according to a new report from ratings agency Standard & Poor's.”

Buyouts Magazine

Sept. 2007

Outlook for private equity

- New mega deals on hold
- Recent mega deal expected returns diminished
- M&A auction hierarchy shift
 - PE owned strategic acquirer
 - Stand-alone financial buyer
 - Traditional corporate strategic acquirer
- Restructuring of CLO market terms
- Minority private investments
- Private investments in public equities (PIPEs)
- Defaults and distressed investing cycle (S&P)?